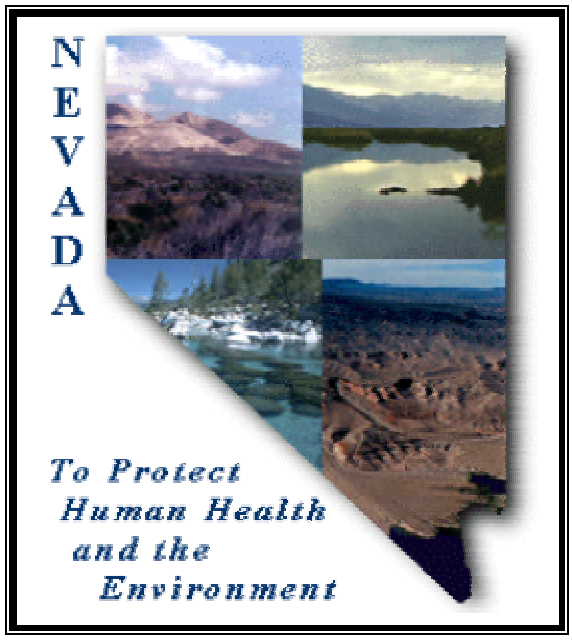

Revised Air Quality Modeling Report

Assessment of PSD Increment in the Fernley Area and Truckee River Corridor

Prepared for

State of Nevada
Division of Environmental Protection

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EXECUTIVE SUMMARY

GOALS

The objective of this modeling analysis was to evaluate and document the current status of Prevention of Significant Deterioration (PSD) increment in Nevada's hydrographic areas 76, 83, and 85 (HA76, HA83, and HA85), while establishing a PSD increment tracking system. To achieve these objectives, a PSD increment source inventory was developed and PSD increment modeling was completed.

This report represents a revised version of the previously completed PSD impact modeling conducted for the Air Quality Modeling Report: Assessment of PSD Increment in the Fernley Area and Truckee River Corridor, as originally provided to the Nevada Division of Environmental Protection (NDEP) on March 14, 2002. Tetra Tech updated the PSD increment analyses for Air Quality Control Regions (AQCRs) HA76, HA83, and HA85.

PROJECT PHASES

The state of PSD increments in HA76, HA83, and HA85 was evaluated and the increment tracking system produced in seven project phases. Each phase included components for emissions inventorying, information technology (IT), and geographic information system (GIS). Details about the seven phases explain how current PSD increment was modeled and how the PSD increment tracking system was developed.

PSD INCREMENT

PSD regulations are intended to help preserve existing clean air resources while still allowing economic growth, and PSD increments are an important part of the program to achieve this objective. PSD increments are the maximum permissible level of increased air quality impacts that may occur beyond a baseline air quality level. Allowable PSD increments have been established for sulfur dioxide (SO_2), nitrogen dioxide (NO_2), and particulate matter smaller than 10 microns (PM_{10}) but do not exist for other pollutants. It is important to note that regulations do not allow total air quality impacts beyond the applicable National Ambient Air Quality Standards (NAAQS) limits, even if all the PSD increment is not consumed (EPA 1990).

PSD increments are tracked on a pollutant-by-pollutant and planning area by planning area basis. PSD increments are only affected by changes to the inventory of sources and emissions since the baseline date that meet specific regulatory criteria. PSD increment impacts represent net air quality impacts in a

triggered planning area, or the change compared to baseline conditions, resulting from applicable changes to pollutant sources. The effect of applicable changes on PSD increments is tracked by calculating net air quality impacts through the use of air quality dispersion models. Net changes can effectively result in either a lower air quality impact, referred to as increment expansion, or a higher air quality impact, referred to as increment consumption.

Net changes to the PSD increment are tracked on two key baseline dates, one for minor sources of the pollutant of concern and one for major sources of the pollutant of concern. Minor source baseline dates are established according to permitting activities in each planning area, while major source baseline dates are established within the Code of Federal Regulations (CFR) for each pollutant on a nationwide basis.

After the minor source baseline date for SO_2, NO_2, or PM_{10} is triggered in a planning area, PSD increment is impacted due to emissions from:

1. Changes at minor stationary sources and any area or mobile sources within the triggered planning area following the minor source baseline date for a particular pollutant for that planning area.
2. Changes at major sources within or outside the planning area following the major source baseline date for a particular pollutant.

The increases and decreases in impacts of triggered pollutants are primarily associated with construction at major stationary sources after the major source baseline date, or with any changes after the minor source baseline date at major or minor stationary sources and any area or mobile sources of the triggered pollutant.

EMISSION INVENTORIES

Emission rates used in each of the modeled scenarios were based on the emission inventories that were compiled for the current date and each baseline date. Sources of stationary point sources include the NDEP Paradox database; NDEP and Washoe County historical files; Nevada Minerals Industry Listings; permit applications from applicable sources; and State Mines Inspection Reports for the minor and major source baseline dates. The information gathered from these sources provided a comprehensive background for stationary sources within HA76, HA83, and HA85 for the emission inventories. Tetra Tech was also able to use the Aerometric Information Retrieval System Database (AIRData) National Air Pollutant Emission Trends (NET) to identify railroad, vehicle, and miscellaneous fugitive emissions on a countywide basis for the current date and minor source baseline dates.

PSD INCREMENT MODELING RESULTS

Based on the dispersion modeling analysis performed, there are no SO_2 PSD increment exceedences predicted in HA76, HA83, or HA85. Additionally, there were no annual PM_{10} PSD increment exceedences predicted in HA83. There are several NO_2 exceedences predicted along I-80 in the northeastern part of HA83. There are also several 24-hour PM_{10} PSD increment exceedences predicted in HA83 near the All-Lite Aggregate facility.

INCREMENT TRACKING SYSTEM

An Increment Tracking System (ITS), database and GIS desktop application was developed to permit access to major and minor source baseline information, annual emissions data, and permitted emissions data. The ITS provides users with a user-friendly graphical user interface (GUI) for entering data, querying data, generating model input files, and reporting capabilities. The ITS will be used to provide local planners, developers and industry with the tools necessary to assure maintenance of air quality within allowable limits.